

## Q.1.

```

.model small
.stack 100h
.data
    arr1 db 0, 5, 6, 7,9
    arr2 db 5 dup(?)
.code
reverse proc
    push bp
    mov bp,sp
    add bp,4
    mov si,[bp]
    add si,sizeof arr1
    sub si,1
    mov di,offset arr2
    mov cx,5

l1:
    mov al,[si]
    mov [di],al
    add di,1
    sub si,1
    loop l1
    pop bp
    ret 2
reverse endp

main proc
    mov ax, @data
    mov ds, ax
    mov si,OFFSET arr1
    push si
    call reverse
    mov si,OFFSET arr2
    mov cx,5

l2:
    mov dl,[si]
    add dl,30h
    mov ah,02h
    int 21h
    add si,1
    loop l2

    mov ah,4ch
    int 21h

```

```
main endp
end main
```

```
C:\>hellonew.exe
97650
C:\>
```

**Q.2.**

```
dosseg
.model small
.stack 100h

.data
    str1 db 10,13,'The sum of the squares is = $'
    num1 dw 5
    num2 dw 3
    num3 dw 2
    result dw ?

.code

square proc
    mov ax,num1
    mov bx,num1
    mul bx
    mov cx,ax

    mov ax,num2
    mov bx,num2
    mul bx

    add cx,ax

    mov ax,cx
    mov bl,10
    div bl
    mov cl,ah
    mov ch,al
    mov ax,num3
    mov bx,num3
    mul bx
    aam
    add cx,ax
    aaa
```

```
    push cx
    pop cx

    ret
square endp

main proc

mov ax,@data
mov ds,ax
mov dx,offset str1
mov ah,09h
int 21h

call square

mov result,cx

mov dl,ch
add dl,'0'
mov ah,02h
int 21h

mov dl,cl
add dl,'0'
mov ah,02h
int 21h

mov ah,4ch
int 21h

main endp
end main
```

C:\>hellonew.exe

The sum of the squares is = 38

C:\>>

## Q.3.

```
dosseg
.model small
.stack 100h
.data
    arr db "heytherearham$"
.code
    main proc

        mov ax,@data
        mov ds,ax
        mov si,offset arr
        mov cx,lengthof arr

        mov dx,offset arr
        mov ah,09h
        int 21h

        mov dl,0ah
        mov ah,02h
        int 21h

        mov si,offset arr
        mov cx,lengthof arr

        uppercase:
            mov al,[si]
            sub al,32
            mov [si],al
            inc si
        loop uppercase
        dec si
        mov [si],word ptr 36
        mov dx,offset arr
        mov ah,09h
        int 21h
        mov ah,4ch
        int 21h
    main endp
end main
```

```
C:\>hellonew.exe
heytherearham
HEYTHEREARHAM
C:\>
```